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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian insect species,
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at the 'Discovery Centre', Lower Ground Floor, Museum Victoria, Carlton Gardens, Melway reference Map 43 K5 at 8 p.m. on the third Tuesday of even months, with the exception of the December meeting which is held on the second Tuesday. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	\$30 (overseas members \$32)
Country Member	\$26 (Over 100 km from GPO Melbourne)
Student Member	\$18
Electronic (only)	\$20
Associate Member	\$ 7 (No News Bulletin)
Institution	\$35 (overseas Institutions \$40)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

LIFE MEMBERS: P. Carwardine, Dr. R. Field, D. Holmes, Dr. T. New, Dr. K. Walker, Daniel Dobrosak.

Cover design by Alan Hyman.

Cover photo: *Coenagrion lyelli* (mating) taken at a swamp in Colquhoun State Forest (near Lakes Entrance) on 3rd December 2012. Photographer Reiner Richter.

Minutes of the General Meeting Tuesday, 18th June 2013 at Melbourne Museum

Attendance: Linda Rogan, Ken Harris, Graham Patterson, Carol Page, Ian Endersby, Margaret Endersby, Josh Grubb, Trevor Hausler, Ray Besserdin, Steve Williams, Marilyn Hewish, Maik Fiedel, Patrick Honan, Peter Carwardine, Steve Curle

Apologies: David Stewart, Grant Kuseff, Eileen Collins, Phuoc Anh Phung, Mark Hura, Bill Elder, Jim Wilson, Ray Macpherson, Mark Hunting, Geoff Hogg, Kaye Proudley, Allen Sundholm, Glenise Moors, Fabian Douglas, Laura Levens, Russell Best, Frank Pierce, Peter Marriott, Daniel Dobrosak

Previous minutes accepted as accurate Vol 43 No 3 June 2013 p52

Correspondence:

- Peter Marriott's email hasn't been working for a while so there is a lengthy delay in replies from Peter.
- Specimen request from Maggie Munn – secretary trying to ascertain the nature of this artists request and what she is looking for.
- Ellen Lascelles request for workshops at the Royal Melbourne Show this year. Any member who can host something along botanical lines, please contact the secretary who will put you in touch.
- Lucy Gouldthorpe contacted the secretary to feature in the TV series Winners and Losers (though has now sourced from elsewhere).
- Paper newsletter June 2013 (Circ.No.163) from the Society for Insect Studies

Treasurer's Report:

General account \$ 6,995; Le Souef Award account \$ 5,577; Publishing account \$ 15,885

Total membership 114

Unfinancial Members 12

Editor's report:

Thank you to all that have contributed to the recent publications.

We are currently looking for some good photos for next year's cover photo. It's helpful if the photo has a fairly plain background and would need to be accompanied by a small write up about the insect in the photo. We have recently featured wasps, weevils, dragonfly and damselfly groups, so need something different for next year. Please send images that you would like to be featured on our front cover next year through to Linda (editor@entsocvic.org.au)

No new membership applications to be elected at this meeting.

General Business:

1. Amendment of Constitution and Rules

Previously, Ian Endersby has distributed to each member, a copy of the proposed changes to the constitution. It was moved at the meeting that the proposed Rules of the Society, as circulated to each Member, be voted on as a whole rather than individually. Ian Endersby moved, seconded by Linda Rogan, and all in favour at the meeting.

Ian Endersby moved that the proposed Rules of the Society, as circulated to each Member, be accepted, seconded by Peter Carwardine, all in favour at the meeting.

Next steps: We now need to send the new rules of the society to Consumers Affairs Victoria for final acceptance and completion.

2. Patrick Honan was asked to identify some objects that were passed around the meeting for assistance. They were found in a small lake/ pond on Kangaroo Island. Seven were found in one spot, they were dry but obviously on the water line so do get wet. They are quite hard, chalky(?), and

seem similar in shape to a button mushroom with the stalk removed. Whilst many had thoughts on what they *might* be, no one had ever seen them before

STOP PRESS: Since the society's meeting, we have discovered what these strange items are. One of the Museum staff has been

able to identify them and they are Crayfish Gastroliths. The WA Museum website has further details and can be found here: <http://museum.wa.gov.au/explore/blogs/aquatic-zoology/why-freshwater-crayfish-don-t-need-milk-healthy-bones>

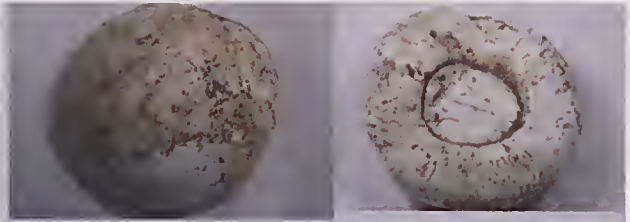


Fig.1 Kangaroo Island Crayfish Gastrolith

3. Member's presentations followed as the main item of the evening:

Marilyn Hewish - Moths in a mallee remnant near Bacchus Marsh

Marilyn lives in Bacchus Marsh 50 km from Melbourne. This area is very dry as it is in a rainshadow. A nearby woodland, Long Forest, is special as it has stands of true mallee, Bull Mallee *Eucalyptus behriana* – a small isolated pocket about 120 kms from the nearest other mallee near Bendigo. It is thought that about 7000-8000 years ago mallee extended from north-west Victoria down to the Long Forest area. When the mallee retreated northwards, a pocket persisted at Long Forest on poor soils and in the rainshadow.

During 25 years of studying birds at Long Forest, Marilyn observed three species that were typical of mallee woodlands in the dry north-west of the state. These were isolated populations. Thus, when she began to study moths there, she wondered if some dry-country species might be found.



Fig. 2 Bull Mallee *Eucalyptus behriana* at Long Forest – the bark peels on this species and shows beautiful colours.

At the meeting, Marilyn showed images of dry-country moths discovered at Long Forest since 2009. They are probably isolated populations as they are separated from the north-west by unsuitable wetter habitats along the Dividing

Range (though few moth surveys have been done there to confirm this). Several of the distribution maps shown were taken from the *Moths of Victoria* books by Peter Marriott.

Gastrinopa xylistis - Marilyn showed photos taken at Long Forest and Neds Corner (J. Grubb) Fig.3.

Lipogya leucoprosopa - Marilyn photographed this species at Long Forest and in the Murray-Sunset National Park. In the north-west, its range extends to Eppalock (S. Williams).

Chlorocoma vertumnaria - Marilyn photographed this species at Long Forest, where it is common, and at Bendigo.



Fig. 3 *Gastrinopa xylistis*



Fig. 4 *Thallarcha raptophora*

Thallarcha raptophora - This is a north-western species. A single specimen was found in Long Forest in November 2009 (A. Kallies and Marilyn) Fig.4.

Thallarcha fusa - The first for the state was discovered at Long Forest (A.Kallies and Marilyn). This species has also been photographed at Neds Corner and the Murray-Sunset National Park.

Earias chlorodes - In 2009, *E. chlorodes* was not known close to Melbourne. Marilyn has since photographed it in Long Forest and at Neds Corner.

Thallarcha trissomochla - This is not particularly a mallee moth. In 2009, this species had not been seen in Victoria. It was discovered in Long Forest in that year, and has since been found in the Brisbane Ranges, Eppalock (S. Williams), the Grampians and Albury just over the border (M. Halsey). Thus it is uncommon but widespread in Victoria.

The Long Forest woodland is an isolated ecosystem for dry-country plants, birds and moths, and probably for other fauna as well. It is a fascinating area for nature study.

Steve Williams - Mothymatics in Box Ironbark forests

Steve has been monitoring the moths in his local area, just about every night for the past 4 years; attracting them down to light traps and counting the varieties of species and number of each one. Steve also collects some of the females, and when they lay their eggs, breeds them through to adult. This way he is able to not only record the lifecycle of these many different species of moths, but also discover the larval food-plants for each.

Why? Steve explained that he started off just trying to understand what was happening in his own back yard, which is 150m from Box Ironbark forest remnants. Steve comments that data is still being collected and worked on, but the picture of how the local Lepidoptera operate is emerging. So far, the information that is coming to light suggest some very interesting patterns within the local invertebrate populations, and their direct association with the health and seasonal fluctuations in the specific components of the local flora.

Steve is beginning to understand which moths are feeding on what vegetation in a typical box-ironbark setting Fig. 5 and where and when they are in their various life stages during the year (around 200 of the 600 named moth species that Steve has encountered on his backdoor step to date have had their life-cycles elucidated and documented; this work continues).



Fig.5 Just about every plant in the picture will have their own moths feeding on them

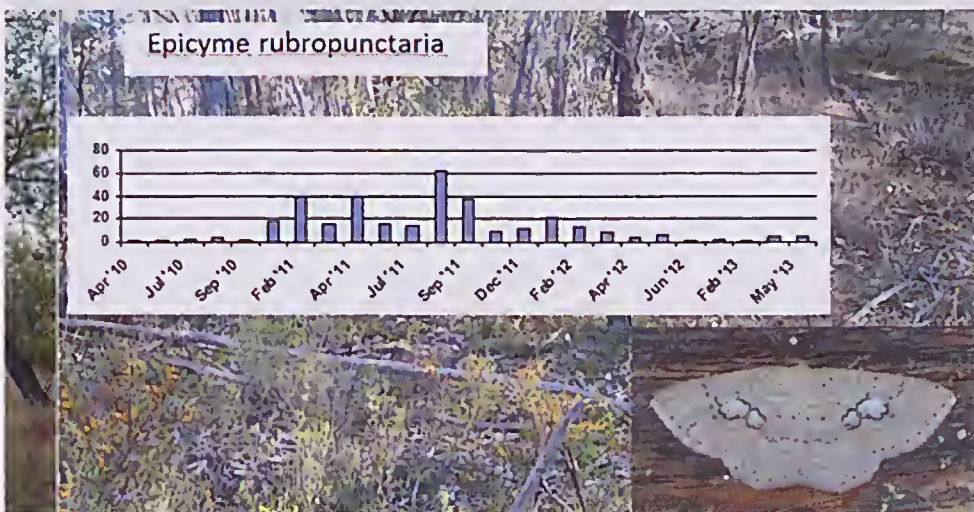
Loss of native grasses

There has been a progressive decline in the abundance of grasses, both native and introduced within the forest to the extent that these have now almost disappeared. This is probably largely due to the seasonal climatic patterns over the last decade. The same trend is evident on cleared private land but there are some introduced grasses that have persisted and some natives like kangaroo grass are still present in these settings (albeit at significantly reduced levels). In both situations there has been a dramatic increase in members of the Asteraceae family to the extent that the local everlasting daisies are often the predominant understory flora on the mid to upper slopes of the hills.



Epicyme rubropunctaria

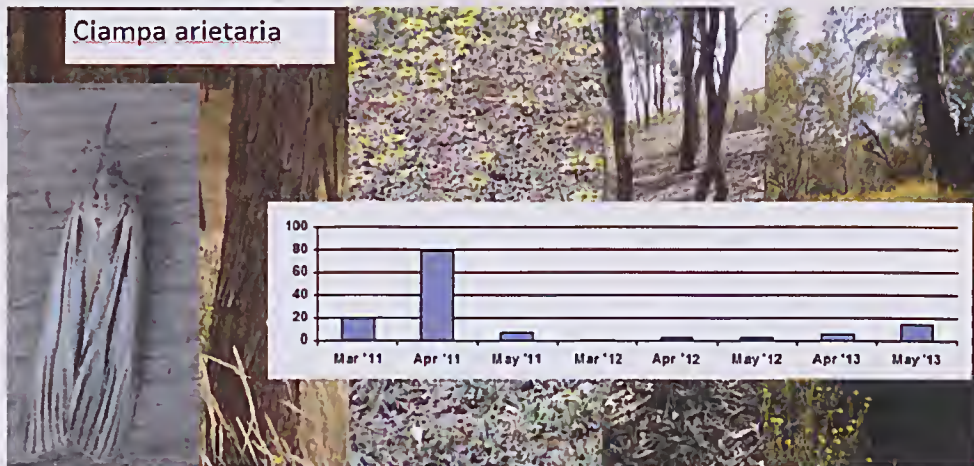
Although we have had some rain recently, the forest is only just beginning to regrow. As the grass declined plants such as the common raspwort and the pale matt rush increased. The raspwort became particularly abundant after the drought broke in 2010 but failed during the past spring and



summer as did many of the other plants in the herb layer. There is strong evidence to suggest *Epicyrme rubropunctaria* is locally utilising the common raspwort as a host and its numbers have mirrored the surge and decline in this plant

Ciampa arietaria

During many of the preceding 5 years lots of the hill tops have been fairly bare. In those years where there has been spring rain, it has led to growth of Capeweed as the seed can remain viable for about 15 years. However, in the last two seasons (particularly the last) dry weather has seen this weed shrivel and die prematurely. Increasingly the sticky or forest everlasting daises are colonising



ground that previously contained this weed. The moth *Ciampa arietaria* has adapted to feed on Capeweed and probably naturally feeds on native members in the family Asteraceae like yam daisy or bear daisy. The figure above shows that the Capeweed failure in the past two seasons is significantly correlated to the decreased numbers of this moth observed.

Steve is hoping to continue correlating his information and present further findings at the ANIC Mothing event in Canberra in July this year.

Steve showed further images; one of a bush setting dominated by Daphne Heath showing plant deaths in this and other species. This is an unusual occurrence and some detailed discussion ensued. Steve went into lots of detail and indicated that the plants that have not survived this past year's low rainfall and periods of intense heat tended to be in more exposed situations, on shallow soils or subject to both scenarios. It was observed from the audience that where trees are drought stressed, they are particularly vulnerable to frost death.

The following two images ,Fig. 6 Six months after a controlled burn, & Fig. 7 Effects of Fuel Reduction Burn after 14 months, are from different locations and times in the same controlled burn area. We are seeing large burns being undertaken in Victoria as they are more efficient and cost effective for the government to manage. The second image was taken the week of the meeting and shows that after 14 months the forest understorey is only just starting to show signs of regrowth (mostly weeds). These burns severely depress floristic diversity in the short to medium term and hence invertebrate populations and their diversity. Ironically the figures show how the impact of burning is prolonged in those seasons where predicted climatic conditions increase pressure for more burning. Due to the dry conditions the forest show below has now missed out on 2 spring seasons and may not recover in time for the 2013 spring. It may be 3 to 4 years before this remnant is able to effectively support a significant level and range of insectivores.

Fig. 6 Six months after a controlled burn



With moth lifecycles all staged differently, when the full floristic diversity is present this ensures a more constant and diverse supply of invertebrates for insectivores. It also helps to guarantee some of the peaks in invertebrate availability to support breeding cycles in vertebrates. It's easy to see how these large controlled burns are impacting the ecology of the Box Ironbark bush.

Fig. 7 Effects of Fuel Reduction Burn after 14 months



Steve readily admits there is still a fair bit of conjecture in this study and that further years of investigation are needed to confirm and consolidate early indications and that these will undoubtedly uncover many new and interesting aspects of this fascinating eco-system

**Patrick Honan - Bioscan images
& recent Alice Spring trip**

Photos from various field trips around Victoria as part of Bioscans with the museum and Parks Victoria, as well as a collecting trip to Alice Springs.

Patrick explained some background to the survey at Lake Condah – western Victoria – a very degraded area as it has been farmland for a long time, then flooded and now a lot of it has become a protected area and very weedy. Patrick participated in a general survey of the insects in the area with Museum Victoria and Parks Victoria.

At Lake Condah, west of Warrnambool, they discovered Mountain Katydid *Acripeza reticulata* which look like a large gumnut until disturbed. A number were brought back to the Museum for rearing and they were able to collect several hundred eggs. This species has not been successfully reared in captivity long-term before, and although they have been reared to adulthood at the Museum, the techniques need considerable refining. Eggs collected a few years ago are still unhatched, even though when opened there are perfectly formed embryos inside

As part of the Neds Corner survey, this large Cossidae was discovered – a large moth that is yet to be described Fig. 9.

And further images from Patrick's trip to Alice Springs revealed this beautiful moth. The silver spots on the eyes were like small droplets of solder Fig. 10.



Fig. 8 Mountain Katydid
Acripeza reticulata – disturbed
showing defensive position



Fig. 9 Cossidae - undescribed



Fig.10

There were many fabulous images from Patrick's survey expeditions around Australia; too many for these minutes. I trust this small representation will entice you to pay a visit for yourself.

Linda Rogan - Sawfly Larvae

Linda explained that she volunteers at the indigenous plant nursery with the Friends of Warrandyte State Park – and whenever something is found eating the plants, Linda gets called! So when a caterpillar – well several – showed up on the *Callistemon sieberi*, Linda was called.

They were quickly identified by Linda as Sawfly Larvae (not Lepidoptera caterpillars despite their appearance). They are not flies at all but wasps. Since they were feeding on *Callistemon*, Linda guessed they may be *Pterygophorus cincta*. Linda took some home to study further and was curious about their life cycle Fig. 11.

Pterygophorus cincta seems to have had a bumper year this year – and have demolished a tree in Patrick's back yard.

The tail is understood to simply be a device that is odd and threatening to predators. If the group is threatened, they will stick their tails up. Spitfires are a different group within the sawfly family.

Patrick also explained that some species of sawfly have a leader in their little group of larvae; and if the leader disappears, the remainder, also, don't survive. The Sawfly group has lots of different species many looking very similar. Adults are generally found around late Autumn, don't feed and only live for a few days. Some sawflies that pupate in groups do so at base of the food plant in honeycomb cells and can be carefully dug up. They are very heavily parasitised – hence the large numbers of larvae, I suspect.



Fig. 11



Fig.12

Linda also had an identification request from Laura Levens; a type of Shield Bug. Ken Harris believes he has an identification for this bug; can anyone else shed any light on this species Fig.12?

Linda also has received a good copy of the Bee Flies of the World: The Genera of the Family Bombyliidae by Hull, Frank M.; Smithsonian Institution Press, 1973. Linda has little use for this book and is offering to anyone whom might be interested in this field. Please contact the editor.



Peter Carwardine - keeping together your collection of Victorian Entomologist

Peter explained the problems of browsing through your old copies of Victorian Entomologist – or other such collectible publications only to find one missing. A solution to this was proposed in perhaps binding old copies together. This was seen as a very expensive option but professional book-binders were willing to do.

Wine cask boxes were shown as a neat and tidy option that would keep many together, dust free and easy to find.

Peter also brought in some bindings that his late mother used to do for him – some very traditional binding that is hard to find now

Meeting finished 21: 21

Continued on page 86

Minutes of the Council Meeting Tuesday, 16th July, Melbourne Museum

Minutes of Entomological Society of Victoria Council

Meeting Tuesday, 16th July 2013 Melbourne Museum

Attendance : S Curle, P Honan, P Lillywhite, P Carwardine, I Endersby, P Marriott

Apologies : L Rogan, D Dobrosak, M Feidel

The meeting was opened by President Patrick Honan at 17:23 including a Skype connection with one member.

1. Previous minutes

Minutes of the previous council meeting [Vic. Ent. 43(3): 55-56] accepted M: P. Lilywhite S: S. Curle

2. Correspondence

Patrick has emailed all of the other societies to inform them of the change in President. We have had further dialogue with:

- Graham Owen - Society for Insect Studies
- Maxwell Campbell - FNCV
- Penny Gullan – Australian Entomological Society
- Robert Ryan - Entomological Society of NSW
- Nominations sought for Australian of the Year Awards 2014 <http://www.australianoftheyear.org.au/> <http://onenomination.aoty.org.au/>

3. Treasurers Report:

Account Balances-

- General a/c: \$6,747
- Le Souef a/c: \$5,577
- Publishing a/c: \$15,912
- Members: 114
- Unfinancial Members: 6
- No new membership applications

4. Editors report: Submissions to Daniel by end of this week to meet the deadlines.

General Business

5. 2013 Schedule future meetings:

- Dr. Steinbauer has offered to speak at the February 2014 meeting.
- Dr. Mallik Malipatil has offered to host the excursion to the new DEPI AgriBio, Bundoora facility – this will be our October meeting 2013
- Continued work is required on the excursion for December. This is currently scheduled to be Saturday December 7th, and likely to be at Jells Park.

6. Publications update – Hepialidae book making good progress, currently planning to publish this year; Ennominae book should be ready for this time next year. Noctuidae part 1, dependent upon progress of Hepialidae.

Pemberly Books, a natural history book seller has shown interest in stocking MOV.

7. The council has reviewed Kelvyn Dunn's Part 3a article on the history on ENTRECS and agreed to publish within the space available at the next publication. Peter Carwardine is happy for his photograph to be used. All those involved in the article have had the opportunity to review and those who have asked for amendments have been accommodated.
8. Required changes to our Society's Rules arising from changes to the Association's Incorporation Act – pending the minutes from the June meeting being published.
9. We are investigating options to produce an informal newsletter in addition to the formal publication. This would be more informal and more personal, and hopefully in more collaboration with the other Australian entomological societies. This would be purely an electronic publication. We would like members of the society to advise the editor that should they not wish to receive his electronic article in the email. We are planning to maintain a hardcopy for the society. All members of the council think this would be a good idea and to proceed.
10. Insurance for excursions; further discussions are ongoing with regards insurance cover and liability for the society.
- I. Endersby to review the act to verify liability requirements / verify liability for excursions
11. Le Souef Awards: proposed to reinstate the review committee. The committee consists of the society President, Secretary and P. Carwardine. M: P. Honan S: P. Marriott. Nominations close in September. Subcommittee to report back to the next council meeting.

Meeting closed at 19:33.

Next Meetings:

2013:			
<i>Month</i>	<i>Date</i>	<i>Planned event</i>	
August	20 th	General Meeting	General Meeting Members' short presentations
October	15 th	Excursion	DEPI AgriBio, Bundoora will be hosting the October meeting
December	7 th	Excursion	Members' presentations or excursion Please note, December's meeting date is second Tuesday of December to try and avoid Christmas celebrations
2014:			
February:	18 th	General Meeting	Two new species of native psyllid - Dr Martin J. Steinbauer F.R.E.S
December:	11 th	AGM	

Australia painted lady butterflies light-trapped in Tasmania

LIONEL HILL

Department of Primary Industries, Parks, Water & Environment, Tasmania.

P.O. Box 303, Devonport 7310, Lionel.Hill@dPIPWE.tas.gov.au.

This article records rare captures of the Australian painted lady butterfly, *Vanessa kershawi* (McCoy 1868) in a mercury-vapour light trap operated by the Department of Primary Industries, Parks, Water & Environment, Tasmania (DPIPWE) at Stony Rise near Devonport. Ten specimens were trapped on 6 occasions between 1992 and 2012. Another was caught in a similar trap at Elliott research farm, inland from Burnie, on 21 October 1955. This article seeks to classify the Australian painted lady in Tasmania as a species that has a single generation in the warm season and that does not overwinter but reinvades in variable numbers annually.

The trap was described by Hill (2013). It operates at Devonport about 5km inland from Bass Strait. Operation commenced in 1992 with non-operational periods in 2007-9 inclusive as well as the first halves of 2006 and 2008. The HYSPLIT model (Draxler and Rolph 2011, Rolph 2011) was applied to the six catches to determine plausible air flows to Tasmania. See Hill (2012) for instructions.

Common and Waterhouse (1972) wrote that *V. kershawi* occurs throughout much of mainland Australia (rarely in the far north), Tasmania, Lord Howe Island, Norfolk Island and New Zealand. Such a published 'distribution' is a potential headache for biosecurity entomologists. It does not specify the degree of establishment. The occurrence of the Australian painted lady outside the Australian mainland seems ephemeral (Dugdale, 1988; Peters 1969; Smithers 1969, 1970a, 1970b, 1971). Ecuador (1992) concluded that the Australian painted lady was only temporarily present, albeit sometimes common, on Lord Howe Island, Norfolk Island and New Zealand but added, 'found in Tasmania (up to 915m), including Hobart'. Common and Waterhouse (1972) described ground-level, cross-wind migration of the Australian painted lady.

The Tasmanian Plant Pest Database (TPPD) of DPIPWE (recording specimens in the Tasmanian Agricultural Invertebrate Collection (TAIC), observations by DPIPWE staff and various documentary sources) has only 16 records of painted lady, being 13 Tasmanian adult specimens, one Tasmanian larva (Marion Bay, 13 December 1987, P.B. McQuillan) and two documentary sources, namely *Butterflies of Australia* (1981) and a 1991 state checklist of Lepidoptera annotated by Ted Edwards of ANIC. The adult specimens include seven light-trapped at Stony Rise and one light-trapped at Elliott. The oldest specimen was collected by Norman in Hobart on 14 December 1894 (TPPD 102076). Specimen localities are Hobart, Mount Nelson, Sandford, Marion Bay, Devonport and Elliott. Pest record numbers from the Tasmanian Plant Pest Database (prefixed TPPD) double as specimen accession numbers in TAIC. The following record of light trap catches includes notes on meteorology, coincidental migratory moths and field sightings.

Catch interval 14 September 1995 (night of 13 September): One butterfly (TPPD 99645) was caught along with the known migrants: three southern armyworm, *Persectania cingii*; 29 brown cutworm, *Agrotis munda*; two native budworm, *Helicoverpa punctigera*; two diamondback moth, *Plutella xylostella*; one *Pantylidia* sp.; one *Melangyna* hoverfly and three brown lacewings, *Micromus*

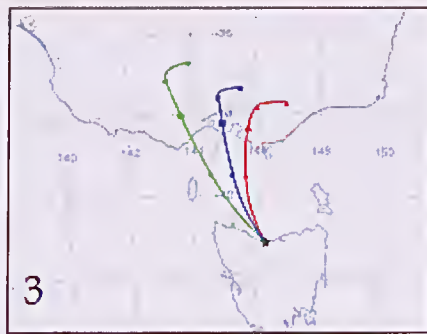
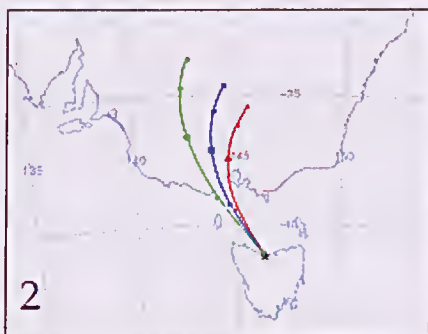


Figure 1. Specimen TPPD99645, Stony Rise light trap 14 September 1995, showing diagnostic blue eyespots of *Vanessa kershawi*.

tasmaniae. A suitable airflow occurred on the night of 13 September 1995 requiring less than nine hours to transit Bass Strait (Fig. 2). The author's notes for field sightings indicate the first Australian painted lady butterfly in this season (winter-spring) was seen at Devonport 26 August, another 27 August, another two 28 August, another 9 September, along with the first cabbage white butterfly, *Pieris rapae* sighting and then a note that Australian painted lady was common on 17 September 1995

Catch interval 9-11 November 1996 (3 nights): One butterfly (TPPD 99646) was caught along with the known migrants: 21 southern armyworm, 13 diamondback moth, four native budworm, two *Melangyna* hoverflies; one common cutworm, *Agrotis infusa*; one brown cutworm, one *Hypoperigea tonsa*; and one granny moth, *Dasypodia selenophora*. A suitable pathway occurred during the first night of this interval requiring around 12 hours to transit Bass Strait (Fig. 3). Much larger catches of various migrants had occurred on 3 November. Greenslade *et al.* (1999) recorded two occurrences of Australian painted lady on Macquarie Island: 30 October 1996 at Green Gorge and 9 November 1996 at Tiobunga Lake (specimens in ANIC). The author's notes for field sightings indicate the first Australian painted lady butterfly in this season (winter-spring) was seen at Devonport on 20 September and the first cabbage white butterfly on the following day.

Figures 2-3. 24-hour back trajectories at 100m (red triangles at 6-hourly intervals), 250m (blue squares at 6-hourly intervals) and 500m (green circles at 6-hourly intervals) above ground level from Devonport, 10pm EST, 13 September 1995 and 10pm EST, 8 November 1996.



Catch interval 3-14 September 1998 (12 nights): One butterfly was caught along with the known migrants: 12 brown cutworm; five *Pantylia* sp. (possibly *P. sparsa*); three native budworm; two *Atheletis tenuis*; two *Heliothis punctifera*; one cabbage-centre grub, *Hellula hydralis*; one *Leucania dictyota* and one *Melangyna* hoverfly. In the following three nights little was trapped as snow fell on the Tasmanian high country after which very large numbers of migrants were trapped on 18-24 September such as 108 southern armyworm, 306 brown cutworm, 16 native budworm, 81 cabbage-centre grub and 33 *Melangyna* hoverflies. Airflow in the start of the 3-14 September catch interval was briefly northwesterly from Kangaroo Island on the night of 3 September (Fig. 4), then westerly for several days until a brief, slow easterly flow from Flinders Island on the night of 10 September which backed to a strong northerly flow on the nights of 11 and 12 September requiring around 12 hours to transit Bass Strait (Fig. 5). It then resumed westerly. The author's notes for field sightings indicate the first Australian painted lady butterfly in this season (winter-spring) was seen at Devonport 6 September one day after the first Australian admiral. In addition, a painted lady was seen at the edge of a broad bean crop at the flowers of wild radish at Hagley, 60km southeast of Devonport, on 13 September. Hence it is possible that the 3 September airflow carried the light-trapped specimen even though the 11-12 September airflow seems more suitable.

Catch interval 18-19 October 1998 (two nights): Five butterflies were caught (four in TAIC as accessions TPPD 88516, 102080-2) along with the known migrants: 69 cabbage-centre grub; 49 diamond-

back moth; 21 native budworm; 12 brown cutworm; seven tobacco looper, *Chrysodeixis argentifera*; six southern armyworm; three *H. tonsa* and one brown lacewing. A suitable airflow occurred on the night of 17 November requiring about eight hours to transit Bass Strait after which it backed west-erly (Fig. 6). The author's notes for field sightings indicate that Australian painted lady was common in his Devonport garden early on 19 October but also that butterflies had been seen regularly in the

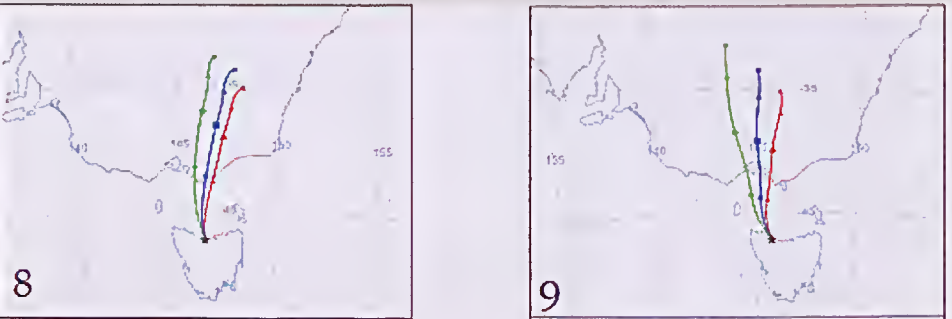
Figures 4-5: 24-hour back trajectory from Devonport, 4am EST, 4 September and 10pm EST, 12 Sep-tember 1998. Elevations and legend as for Figs 2-3.



Figures 6-7: 24-hour back trajectory from Devonport, 10pm EST on 17 October 1998 and 10pm EST, 21 September 2004. Elevations and legend as for Figs 2-3.



Figures 8-9: 24-hour back trajectory from Devonport, 10pm EST, 26 September 2012 and from Elliott, 10pm EST, 20 October 1955. Elevations and legend as for Figs 2-3.



preceding fortnight. The notes indicated this species was still common on 27 October, 8 November, 15 November and present

on 15 December but less common than before. P. B. McQuillan (pers. comm. 17 November 1998) remarked that Australian painted lady was more common than usual in this season, had been seen near the montane Lake Augusta, Tasmania (1100m ASL) and in New Zealand. The author observed it from the Lake Highway at 1000m ASL near Projection Bluff on 2 December 1998. So the rare catch of five in the light trap seems to reflect a wider abundance.

Catch interval 22 September 2004: One butterfly was caught along with the known migrants: 19 native budworm; 14 cabbage-centre grub; six brown cutworm; three diamondback moth; two common cutworm and one common armyworm, *Mythimna convecta*. A suitable airflow occurred on the night of 21 September requiring about 16 hours to transit Bass Strait (Fig. 7). In this spring season the author recorded no field sightings of painted lady but the first cabbage white butterfly was noted on 19 September and two more on 21 September. At this time, agronomist Dan Sutton reported cabbage-centre grub moths around a house at Redpa in far north-western Tasmania and many washed up on a beach nearby.

Catch interval 27 September 2012: One butterfly was caught along with the known migrants: one *Leucania dictyota*; one *Melangyna* hoverfly and one *Sandava scitisignata* (possibly migratory). A suitable airflow occurred on the night of 26 September requiring only six hours to transit Bass Strait (Fig. 8). Hobart experienced its warmest September day for 10 years with many parts of the state 3–8°C above average. In this spring season the author recorded no field sightings of painted lady but recorded seeing the first cabbage white butterfly on this day at Quoiba near Devonport.

Catch interval 21 October 1955: One butterfly was caught in the light trap at Elliott research farm (Hill, 2013) on 21 October 1955 (TPPD 102077). A suitable airflow occurred on the night of 20 October requiring about nine hours to transit Bass Strait (Fig. 9). It is possible that the catch interval included several days, ending 21 October but the available record of trap clearance dates does not commence until 25 October 1955.

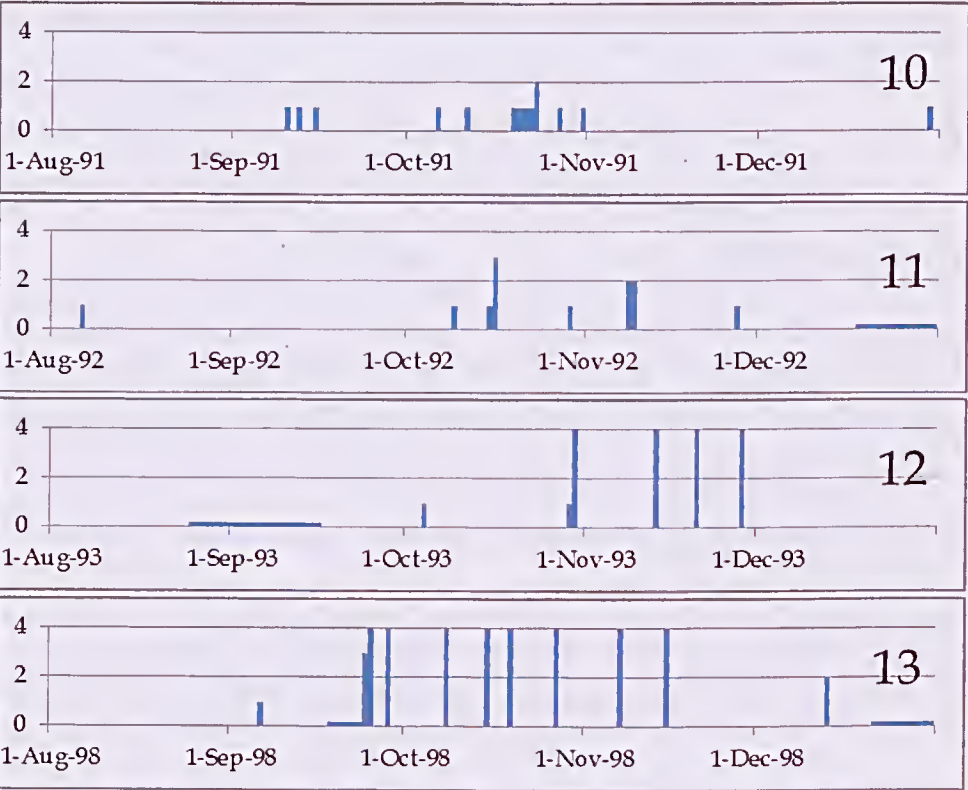
There is only one reared adult specimen of Australian painted lady in the TAIC (TPPD 99644, larva off *Helichrysum bracteatum*, Devonport, Nov., 1989). This and a larval record of McQuillan (TPPD86532), mentioned above, suggest that there is at least a summer generation in Tasmania. Also the late summer and early autumn dates of some specimens or observations, as in the next paragraph, are consistent with this. TPPD has one such specimen (Sandford 8 Feb 1955, TPPD 102078). The author's observations suggests it is present but not necessarily common in summer.

The Atlas of Living Australia (ALA, 2013) contains 22 dated records of Australian painted lady for Tasmania with the frequency of months favouring late summer and early autumn: September (1), October (4), December (3), January (2), February (7) and March (5) although three February and March records are series duplicates. These records derive from 13 specimens in the Queen Victoria Museum & Art Gallery, Launceston and some observations from the Natural Values Atlas (NVA) including five by amateur lepidopterist, Sid Angel between 1935 and 1952. The NVA is a database of the wildlife management division of DPI/PWE and discrete from TPPD, an agriculturally oriented database.

Some of the author's notes on field sightings were used above to add context to the record of captures of Australian painted lady in light traps. In addition, dates of first sightings for years when observations were likely made are 13 September 1988, 10 September 1991, 6 August 1992, 4 October 1993, none in 1994, 26 August 1995, 20 September 1996, 20 October 1997, 6 September 1998, 13 September 1999, 27 September 2006, 20 September 2010 and 19 September 2011. Figs 10–12 give

some indication of the frequency at which Australian painted lady is seen by the author in and around the rural city of Devonport. It is not a common butterfly in every year.

Figures 10-13. Sightings of Australian painted lady near Devonport, Tasmania, 1991, 1992, 1993 and 1998 by the author. Value 0.2 represents absences of the observer. Value 4 represents a note that the species had been common recently (sighted most days) rather than that four butterflies were sighted on that day. However values 1-3 represent the number of butterflies sighted on a particular day.



The over-water durations for the migrations are around 6-15 hours and all are near the spring equinox. In most instances the butterflies could have flown direct from the New South Wales - Victorian border in around 18 hours. The charts merely indicate plausible pathways and are not necessarily the optimal pathways to explain all circumstances of the catches in light traps. The precise time of capture is not known even when the catch interval is only one night while airflow can change rapidly in this region.

Judging from information available in TPPD, ALA and the preceding analysis, the Australian painted lady regularly invades Tasmania from mainland Australia but documented records of it breeding in Tasmania are rare for summer and absent for winter. It should be noted, as in Hill

(2012) that the mere presence of suitable host plants should not be used to imply residential status of a species when publishing distributions as has occurred in some literature. This is particularly important to biosecurity jurisdictions located at the edge of a potential pest's distribution.

Acknowledgement

The author gratefully acknowledges the National Oceanic and Atmospheric Administration (NOAA) Air Resources Laboratory (ARL) for the provision of the HYSPLIT transport and dispersion model and (Real Time Environmental Applications and Display Systems) READY website used in this publication.

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A SIGNIFICANT RECORD OF *EVERES LACTURNUS* (GODART) (LEPIDOPTERA: LYCAENIDAE)

DANIEL KING 420 Spencer Road, Thornlie, WA 6108 (Email: drd_king@hotmail.com)

Abstract

Everes lacturnus (Godart) is recorded from Kununurra, Western Australia.

Introduction

While *Everes lacturnus* (Godart), the Orange-tipped Pea Blue, has been recorded from Kalumburu and from various sites within the Northern Territory (Braby 2000, 842.), there are no previous records of this butterfly from locations between these areas (Michael Braby, pers. comm.)



Observations and Discussion

A specimen of *E. lacturnus* was collected by the author on 11 May 2013 from a site in Kununurra, on the verge of Weaber Plains Road (15.77S, 128.74E). No other individuals were observed. The finding clearly offers some support to the hypothesis that the distribution of *Everes lacturnus* is continuous between Kalumburu and the Northern Territory.

Acknowledgments

I thank Michael Braby for his comments.

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Continued from page 77

Future meetings

2013 meeting dates

Council meeting dates: 17th September, 19th November

General Meetings

A number of people have been informally meeting up at Michelinos Trattoria Restaurant prior to general meetings. Any members who would like to meet at Michelinos – at around 18:00 – are welcome to join us for a pre meeting chat / food.

www.michelinos.com.au/ 69 Pelham Street VIC 3053 (03) 9663 336

Month	Date	Planned event	Topic
August	20th	Members' Meeting	Ask Patrick whether this is confirmed??
October	15th	Excursion	DEPI AgriBio, Bundoora
December	7th	TBA	TBA

History of ENTRECS – Part 3(a): Annals of the Society – culmination

Kelvyn L Dunn

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Preamble – the later years

This third part of the *ENTRECS* chronicle relates the final years of the scheme under the coordination of the subcommittee. It deals with the period from the late 1980s through to the scheme's gradual closure, in about 2010. This era was marked by protracted problems that arose from policies that related to the usage and purposes of the data holdings. Effectively, the revised charter enacted to safeguard the data during this time served as an antithesis of that purposed and promoted during the foundational Quick era. Tragedy also beset the committee with the loss of two crucial workers during a productive period. A reversal of policy renewed hope for future applications for the data and furthered the team's productivity, but the anticipated outcomes never eventuated.

6. Complexities of strategy: procedures, accountability and changing foundations

The late 1980s brought in procedural changes and with these came a resolve to facilitate the project's productivity. The Society had registered *ENTRECS* as a business during 1987 (17:78) and with that move had come a renewed focus on policies and protocols; the aim was to protect the data suppliers' interests and maintain standards. Yet, the reluctance of some members to contribute (whether that was because of issues of trust or because of the labour time involved) still remained an obstacle, and complicating matters in that regard, one or more contributors had become disenchanted. A disappointed member (whose main interest was on groups other than butterflies) once wrote of the scheme: *"I put a lot of work into providing records but never saw any of them published."* Together, these and other factors had lowered productivity in terms of mapping distributions of broader insect groups.

After questioning the subcommittee on its efforts since 1986, Council members, Ian Faithfull and Dr Ross Field formally brought the matter to attention in September 1990. The minutes recorded that *"I. Faithfull raised the general matter of accountability of Council subcommittees and proposed (seconded by Ross) that: 'a written report of subcommittees be presented at least to the Annual General meeting and a verbal report [be] made to each Council meeting' Carried. (20:92)."* The motion was intended to enforce accountability and to propel activity" (Faithfull p.c. 2012), and during that meeting Ian raised a series of questions to David Crosby, then the subcommittee's spokesperson. These included (in litt.): *"What is the composition of the ENTRECS committee? Are minutes kept, if so can they be tabled? If not, how are decisions recorded? When was the last meeting? What is the timetable of work? What is the extent of computerisation? That Council member later stated that the problem, as he saw it, "was that the committee did not meet, did not do anything, did not report and had not reported".* He also added, *"I vaguely recall receiving only evasive answers to these questions and this heated up my contribution to the debate. The ENTRECS committee was effectively inactive, with undefined membership and had not reported to the Council for a long period."* He considered the right of the Council to know what its committees had been doing needed upholding. Disappointingly, *"The motion however made little difference and the Committees, if they did*

anything, never did provide what I considered to be adequate reports on their activities during my period on the Council" (Faithfull, p.c. 2012). The accountability issue, although legitimately intended to improve the scheme's transparency and Council's autonomy, rather than to promote factions, unsettled the social cohesion of the Committee (of which the subcommittee was also a working component) for a long time. Mark Hunting was to reflect later (*in litt.*) that the subcommittee's efforts had been in "an honorary capacity" and it seemed instead that business needs were now driving the Council's focus, perhaps intertwined too with a growing "loss of trust".

What soon would become clear to Council was that *ENTRECS* was becoming a victim of circumstances beyond the control of the Society and that the individuals involved, despite their best endeavours, had become similarly ensnared. In particular, that same era saw technical problems arise for which suitable resolutions could not be agreed upon. The functional issues with the grid system and the suitability of the data entry forms were two issues discussed at length.

The first issue was complex and concerned the western border of Victoria, which does not align with the 141-degree meridian of longitude. In fact, it is off set two (2) minutes to the west due to a surveying error made between 1846 and 1850 (Duncan 1982). Historical background here provides explanation: "The correct position of the meridian was established in 1868, in preparation for the marking of the border between South Australia and New South Wales, north of the [River] Murray. The [ownership] dispute that arose between South Australia and Victoria over the boundary south of the river continued until 1914, when the Privy Council ruled in favour of maintaining the *status quo*" (*op. cit.* p.2). There were varied suggestions within the subcommittee as to what to do to enable the mapping purpose of *ENTRECS*, which was to include all of Victoria (not most of it). One suggestion was to extend the grids westward by two minutes; another was to add additional grids into South Australia to compensate for the difference; and still another option was to ignore those records from that area in dispute if a better solution could not be agreed upon. Initially, as the historic record stands, the subcommittee had resolved this matter by mid 1990 and adopted a varied version of the first option; the plan was to offset the placement of the records instead of the grids. The decision aired in October that year: "*The small strip of land between the western edges of the Natmaps at latitude 141.00 and the Victorian border are to be included in the grids to the immediate east. This procedure will be the same as that adopted for the plants*" (Crosby 1990: 95-96). However, between the time of writing of David's report and its final release (in October) the matter had become unresolved again. The September Council Minutes commented that: "*Further discussion is needed over the treatment of the SA border region...*" (20:92), and then, two months later, in November – just a month after David's report was published – the Minutes reaffirmed that the matter was "*...still to be decided*" (20:123). (Although this anomaly affected very few records of the total holdings, Ian Faithfull had personally collected insects along the border track in the 1980s and wanted these Victorian records included on the maps). Why Council had dismissed what was agreed upon by the subcommittee as a working solution for this complexity (*vide* Crosby 1990) and what were the subsequent problems (or the problem) that had prompted a retraction of consensus was left unstated. In the research for this account, no proof could be found that a final solution was reached.

Extracts and briefings of this period spoke of continued attention towards streamlining the data forms, which comprised the second concern that arose, and spawned a process of negotiations and problem solving that spanned nearly five years (16:16 & 41; 16:53-54 & 67; Crosby 1990). These changes were required to manage multiple entries per species (16:68-69; Crosby 1990) in order to limit the paperwork and reduce the time required to do this; otherwise, contributors with large

collections were compelled to complete a single form for each specimen or observation. The Convenor also indicated the need to modify forms to collect exact locality information with distances and compass bearings from suitable reference points or features (Crosby 1990). In conjunction with this, he planned to make the original grid-system code optional on the revised record sheets (Crosby 1990). The foundations, which Nigel had established for *ENTRECS* in the 1970s, were slowly changing as the requirements of the project evolved in line with changes in consumer expectations, advancements in mapping technology and greater data storage capability by the 1990s.

7. Further productivity: the project soldiers on amidst unanticipated events

The 1990s saw renewed encouragement from David, the Convenor, now retitled as the Chairman (21:72). He proposed that a revised series of butterfly maps (20:38) be released in 1991 (20:68); in support of this, he affirmed that much new data had been compiled since 1986 (Crosby 1990; 21:43). A draft was scheduled for perusal by mid-1991 (20:68; 21:72), and work on the proposed maps continued (21:43) so as to achieve the task. However, after the earlier-than-planned release of the Dunn & Dunn atlas set during mid-1991, *ENTRECS* abandoned all future projects on butterflies. The subcommittee focussed instead on buprestid beetles, and utilising a Macintosh computer to compile maps and a text, it planned for an atlas release in 1992 (Burns & Burns 1992). Gordon Burns was greatly devoted to this group of insects (New 1991), and by 1990 was skilled in computing and, adding ardency to task, systematically extracted museum data to fulfil this objective. The beetle data set he and his wife Joy compiled comprised 5,735 records dated from 1865 to 1990, collated from 27 collections and involving 210 collectors (Burns & Burns 1992). Gordon, whose careful approach to fact gathering had been exemplary among the team, died suddenly in December 1990 (Dunn 1991, New 1991, Holmes & Holmes 1991). The loss to the *ENTRECS* project was grave. Prominent too was the loss to Council as he was the Honorary Treasurer and had held this office for nearly 8 years. Dr Tim New, in his eulogy, consoled members that Gordon had at least "had the satisfaction of knowing" that the buprestid checklist "had run the gauntlet of review" (New 1991: 36). Unfortunately, his widow who had served two years as President of the Society during the 1980s and who was a long-standing member of the original subcommittee that David had selected back in 1982, no longer participated in the scheme (22:80). The Society had lost two of its most diligent workers; the beetle work was finally published in 1992 (Burns and Burns 1992), but not by the Society.

This eventful period saw other outcomes; for a time it seemed that, the subcommittee was not alone in steering the beetle-work. Three years on from the Burns' report, Ian had used the *ENTRECS* schema to map the distribution of two agriculturally important subfamilies of Victorian beetles as part of an Honours degree (Faithfull 1995). The thesis chapter dealing with Materials and Methods overviewed the mapping schema (see p.11). Maps for the Scarabaeinae and Aphodiinae appeared on pages 55 & 57, respectively. Additional maps for subfamilies according to the native and introduced status of each of the component species were provided (pp. 56 & 58), and Appendix 2.2 presented 86 maps, one for each of the then recorded Victorian species, supplemented by maps portraying selected species groups and tribes of interest. Maps of species deliberately introduced to Victoria contained symbols for grids that indicated whether those taxa had been 'released', 'recovered' or 'both released and recovered'. Another appendix provided an inventory of localities and dates of those specimens, literature records and field observations, which were used to generate the maps. Although a separate constructive effort from that of the subcommittee's endeavours, it added considerably to the coverage of insect groups that were mapped in the 1980s and 1990s. These constructions, by a member of Council and one who was a keen contributor of data on various groups to the scheme during that time, are adjunctive in the broad sense, and furthered Nigel's vision to map the insects of Victoria under the auspices of the Society.



Fig. 1. The late W. Nigel B. Quick (1928-2002) in the Big Desert in October 1972. Nigel was the driving force behind the Scheme in the mid-1970s; an unsung hero of entomological informatics, he foresaw a digital database on insects and in 1975, when the Scheme officially began, compiled the ENTRECS Manuals on his, then still operative, 1932 typewriter.

Fig. 2. David F. Crosby (c. 1983), First Convener: 1981-1992. David, who had served as President in the 1970s, established the Subcommittee of four, whose efforts saw the first maps published.



Fig. 3



Fig. 4



Fig. 5

Fig. 3. Mark M. Hunting (1988), Second Convener: 1992-94. Mark hand-prepared the first maps, safeguarded the holdings and established the 'Hunting Charter'.

Fig. 4. Peter Carwardine, at a Society meeting in 1980. Peter, who served as President during the 1980s, acted as Spokesman for the Scheme in 1994, when the Second Convenor was unavailable at meetings.

Fig. 5. Ian Endersby (1999), acting as the final adopter, digitised all of the existing records in 1998.

Leafhoppers in the Bend of Islands

Frank Pierce jmandfp@bigpond.com

There are several families of Leafhoppers in Australia. Cicadelladae is the largest with over 700 species.

Leafhopper nymphs and adults are sapsuckers feeding on the leaves, twigs and branches of the host tree. The nymphs are often 'farmed' by ants which collect honeydew from them and, in return, provide protection from predators

They use only their two front pairs of legs for slow walking. Their back legs have many small spines, and are used only for jumping. They jump with incredible speed.

I have found several species in the Bend of Islands including the Yellow-headed Leafhopper, *Brunotartessus fulvus* Fig. 2-5 and the Flat-headed Leafhopper, *Ledromorpha planirostris* Fig. 1, both in family Cicadelladae, and the Gum Leafhopper - *Eurymeloides* sp., Fig. 6, of family Eurymelidae. Some friends have also recently found the Lantern Fly *Rentinus dilatatus*, Fig. 7, of family Fulgoridae, in the area.

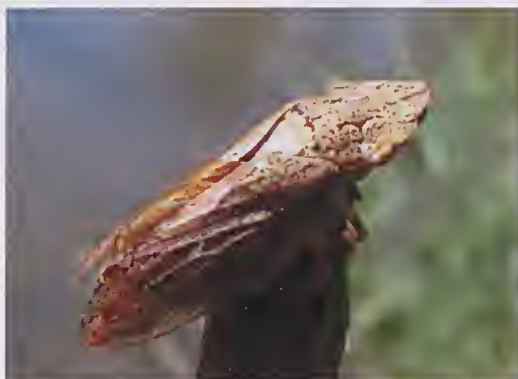


Fig. 1 Flat-headed Leafhopper *Ledromorpha planirostris*

The Yellow-headed Leafhopper, *Brunotartessus fulvus*, has a body length of about 8mm and an annual life cycle involving five nymphal stages, or instars, between the egg and the adult. The emergence of an adult from the final nymphal stage was observed on fresh regrowth of a Long-leaf Box *Eucalyptus goniocalyx* close to our house on the Co-op in January 2012.

I noticed the young adult sitting on a leaf, next to the shed nymph skin. It had transparent wings and pale pinkish colouring. Leafhoppers, like many freshly emerged insects, inflate their wings by pumping haemolymph (their watery blood) into them. This is later withdrawn back into the body and the wings dry and strengthen.

The next day the adult, still standing next to the shed nymph skin, on the same leaf, showed much more colour, but was still pale compared with the mature adult.

The Bend of Islands is a 634 ha area of high conservation-value bushland, located adjacent to the Yarra River, 30 km north-east of Melbourne. The area is zoned 'Special Use Zone - Environmental Living', in the Shire of Nillumbik. This zoning prohibits the keeping of dogs, cats or other domestic or farm animals, restricts the planting of non-indigenous plants to a contained kitchen garden area near each house and prohibits the removal of native vegetation without a permit. For more information on the ELZ, refer to the Bend of Islands Conservation Association website at home.vicnet.net.au/~bica

Most observations occurred at our house, which is located on the Round the Bend Conservation Cooperative. This is a 128 ha property within the ELZ, owned by 32 shareholders each with a 0.15 ha house site strategically located to minimise impact on the local bushland which is of State significance, and includes Box-Ironbark Forest. For more information on the Co-op, refer to the website www.roundthebend.org.au.

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LIFE STAGES OF A YELLOW-HEADED LEAFHOPPER



Fig. 2 Final Stage Nymph



Fig. 3 Recently Emerged Adult next to shed Nymph Skin



Fig. 4 One Day Old Adult next to shed Nymph Skin



Fig. 5 Mature adult



Fig. 6 Gum Leafhopper - *Eurymeloides* sp



Fig. 7 Lantern Fly Leafhopper *Rentinus dilatatus*
(Photo by Mal Chicksen)

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Thanks to Daniel Dobrosak, Marilyn Hewish and Ian Endersby for assistance in producing the Victorian Entomologist.

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The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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DIARY OF COMING EVENTS

Tuesday August 20th, 2013

Note 7:45 pm start

Members' Presentations

Tuesday September 17th

Council Meeting

Scientific names contained in this document are *not* intended for permanent scientific record, and are not published for the purposes of nomenclature within the meaning of the *International Code of Zoological Nomenclature*, Article 8(b). Contributions may be refereed, and authors alone are responsible for the views expressed.

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